

FOURIER MOIRE WAVEFRONT SENSOR

ABSTRACT OF THE DISCLOSURE

An apparatus and method for wavefront sensing that includes: employing two moiré gratings in an optical path; optically Fourier transforming a moiré deflectogram produced by the gratings; variably transmitting the transformed moiré deflectogram; and receiving an image of the variably transmitted and transformed moiré deflectogram. The variable transmission is best accomplished by transmission filter, a transmissive optic encoding intensity information upon the moiré deflectogram as a function of fringe angle. For example, the function can be a triangular transmission function centered on the (0,0) order spatial frequency spot and oriented at 45 degrees to the y-axis. The optical Fourier transform is accomplished by a lens and the variable transmission by an apodized slit.